

WHAT IS CLAIMED IS:

1. A radial tire for a heavy load comprising:

a carcass extending to a bead core of a bead portion from a tread portion via a side wall portion; and

a belt layer arranged inside the tread portion and outside the carcass,

wherein a carcass cord of said carcass is constituted by a metal cord having a core comprising totally 6 to 12 filaments sectioned into 1 to 4 filament bundles, and a sheath comprising 8 to 15 filaments arranged around the core,

wherein each of said filament bundles includes a waved filament modeled in a two-dimensional wave shape having crests and troughs repeatedly and a non-waved filament, in a state before being bundled, and

wherein said core makes the wave of said waved filament three-dimensional within the core by applying a torsion to each of the filament bundles.

2. A radial tire for a heavy load as claimed in claim 1, wherein said core is formed from one filament bundle, and is bundled with said sheath while applying the torsion to each of said filament bundles.

3. A radial tire for a heavy load as claimed in claim 1, wherein said core is formed from two to four filament bundles each constituted by three filaments, and after forming a core by twisting said filament bundles with each other after or

at the same time when the torsion is applied to each of said filament bundles.

4. A radial tire for a heavy load as claimed in claim 1, wherein the filament of said core has a wire diameter between 0.15 and 0.30 mm and having substantially the same diameter as that of the filament of said sheath.

5. A radial tire for a heavy load as claimed in claim 1, wherein said waved filament satisfies a relation of the following formulas (1) to (2), when setting a wave pitch is P_w and a wave height to h .

$$5.0d \leq P_w \leq 30.0d \quad \dots (1)$$

$$0.2d \leq h \leq 3.0d \quad \dots (2)$$

6. A radial tire for a heavy load as claimed in claim 3, wherein the twist pitch P_c of said core is between 5 and 30 mm, and the torsion pitch P_f of each of the filament bundles is equal to or more than 2 times of said twist pitch P_c and equal to or less than 20 times.

7. A radial tire for a heavy load as claimed in claim 6, wherein the twist pitch P_s of said sheath is between 5 and 30 mm.

8. A radial tire for a heavy load as claimed in claim 2, wherein said core has a replacement portion in which positions of the filaments are replaced between an inner side and an outer side, within the filament bundle, and a number of the replacement portion is set to be equal to or more than 5 per

a cord length 1 m.

9. A metal cord comprising:

a core comprising totally 6 to 12 filaments sectioned into 1 to 4 filament bundles, and a sheath comprising 8 to 15 filaments arranged around the core,

wherein each of said filament bundles includes a waved filament modeled in a two-dimensional wave shape having crests and troughs repeatedly and a non-waved filament, in a state before being bundled, and

wherein said core makes the wave of said waved filament three-dimensional within the core by applying a torsion to each of the filament bundles.

10. A metal cord as claimed in claim 9, wherein said core is formed from one filament bundle, and is bundled with said sheath while applying the torsion to each of the filament bundles.

11. A metal cord as claimed in claim 9, wherein said core is formed from two to four filament bundles each constituted by three filaments, and after forming a core by twisting said filament bundles with each other after or at the same time when the torsion is applied to each of said filament bundles.